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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,483	12/10/2004	Wittich Kaule	2732-150	6823

6449 7590 08/14/2009

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EXAMINER	
LAVARIAS, ARNEL C	

ART UNIT	PAPER NUMBER
2872	

NOTIFICATION DATE	DELIVERY MODE
08/14/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

Office Action Summary	Application No.	Applicant(s)	
	10/517,483	KAULE, WITTICH	
	Examiner	Art Unit	
	Arnel C. Lavarias	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-69* is/are pending in the application.

4a) Of the above claim(s) *7-50,54,57,60,64,66,67 and 69* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,51-53,55,56,58,59,61-63,65 and 68* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/8/09 has been entered.

Response to Amendment

2. The amendments to Claims 1, 6 in the submission filed 7/8/09 are acknowledged and accepted. In view of these amendments, the objections to the claims in Section 7 of the Office Action dated 4/8/09 are respectfully withdrawn.

Response to Arguments

3. The Applicant's arguments with respect to Claims 1-6, 51-53, 55-56, 58-59, 61-63, 65, 68 have been considered but are moot in view of the new ground(s) of rejection.

4. Claims 1-6, 51-53, 55-56, 58-59, 61-63, 65, 68 are now rejected as follows.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 51-53, 55-56, 58-59, 61-63, 65 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi et al. (U.S. Patent Application Publication US 2002/0041323 A1).

Hayashi et al. discloses a method (See for example Figures 1-4) for producing a grating image (See for example set of lines 30 in Figures 4A-B, which form a Bragg diffraction grating), which at least has one grating field (See for example set of lines 30 in Figures 4A; front set of lines 30 and rear set of lines 30 in Figure 4B) with visually recognizable, optically variable properties (See for example Paragraphs 0012-0014, 0030), in which grating lines are disposed, that are produced by means of a writing apparatus (See 10 in Figure 1), wherein a working field (See for example 1 in Figure 1; Figure 3; set of lines 30 in Figures 4A; front set of lines 30 and rear set of lines 30 in Figure 4B) of the writing apparatus has a fixed size predetermined by a deflection (See for example 13 in Figure 1) of a particle beam or of a light beam (See for example 11 in Figure 1) of the writing apparatus and is to be moved to different positions of a substrate (See for example 1 in Figure 1) to be inscribed, the method comprising the following steps: a) determining at least one uniform grating line, which completely lies within one working field (See for example Figure 3; set of lines 30 in Figures 4A-B); b) defining a sequence of working fields (See for example front set of lines 30 and rear set of lines 30

in Figure 4B; Paragraphs 0050-0051) with respect to the grating field, in each of which the at least one grating element line is to be produced continuously without interruption along its entire length (See for example Figure 3; Paragraphs 0048-0049) by means of deflection of the particle beam or of the light beam of the writing apparatus; c) moving to the working fields by relative movement of a carrier, on which is located the substrate, and the writing apparatus (See for example 15 in Figure 1; Paragraph 0029, 0032, 0050-0051); d) writing the at least one grating line into the substrate by means of continuous deflection of the particle beam or of the light beam of the writing apparatus within the respective working fields (See Figure 1). Hayashi et al. additionally discloses an apparatus for carrying out the above method (See for example Figure 1); a grating image produced according to the above method (See for example set of lines 30 in Figures 4A-B, which form a Bragg diffraction grating); a security element with at least one grating image produced according to the above method (See for example 1 in Figures 1, 4A-B), wherein the security element may be a security thread, a label or a transfer element (See for example 1 in Figures 1, 4A-B); a security paper with at least one grating image produced according to the method above (See for example 1 in Figures 1, 4A-B); a security document with at least one grating image produced according to the above method (See for example 1 in Figures 1, 4A-B); a transfer material, with at least one grating image, produced according to the method above (See for example 1 in Figures 1, 4A-B); and an embossing tool with at least one grating image, produced according to the method above (See for example 1 in Figures 1, 4A-B).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. in view of Jackson et al. (U.S. Patent No. 5335113), of record.

Hayashi et al. discloses the invention as set forth above in Claim 1, but does not explicitly disclose a data record containing information about form and position of the at least one grating element forming the grating field, and further containing coordinates of starting, end, or intermediate points or of Bezier curves, such that the at least one grating element is continuously produced in one writing operation. However, the use of data record and the use of coordinate values in the data tables to represent lines and curves is known in the art. For example, Jackson et al. teaches a conventional method for producing a diffractive grating structure (See for example Abstract; Figures 11-12), wherein a diffractive image is converted into computerized data by transforming the diffractive elements of the image into coordinate information (See for example col. 1, line 47-col. 2, line 28; col. 4, line 44-col. 6, line 35) in a data file or table. Such data would necessarily include starting, ending, and intermediary coordinate points as needed to describe each of the diffractive elements of the image. The computerized data is then input to a computer system attached to an electron beam lithography system modified for line writing operations (See for example col. 6, lines 52-59). Though the specific use of

Bezier curves is not specifically disclosed, such would have been another apparent way to one having ordinary skill in the art to parameterize the grating element lines into coordinate data. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the method of Hayashi et al., contain a data record containing information about form and position of the at least one grating element forming the grating field, and further contain coordinates of starting, end, or intermediate points or of Bezier curves, such that the at least one grating element is continuously produced in one writing operation, as taught by Jackson et al., for the purpose of providing a diffractive image having diffractive elements which are more structurally stable and more easily replicated using the automated writing technique, thus minimizing degradation of the expected viewed image of the diffractive image.

9. Claim 68 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. in view of Lee (WO 91/03747 A1), of record.

Hayashi et al. discloses the invention as set forth above in Claims 1, 63, except for the transfer material comprising hot stamping foil. However, Lee teaches a conventional method for forming a diffractive structure (See for example Abstract; Pages 8-9), wherein a hot embossing process utilizing a gold coated nickel master of the diffractive structure and hot stamping foil of aluminum and plastic coated films (See Page 9). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the transfer material comprise hot stamping foil, as taught by Lee, in the method of Hayashi et al., to allow for inexpensive, high quality replicas of the diffractive structures to be fabricated from the master embossing die.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 10:00 AM - 6:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Arnel C. Lavarias
Primary Examiner
Group Art Unit 2872
8/11/09

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